

LIST OF LEPIDOPTERA COLLECTED IN MOROCCO IN 1927 BY ERNST HARTERT AND FREDERICK YOUNG.

By LORD ROTHSCILD, F.R.S., PH.D.

DR. HARTERT'S first collecting station was at Ouldjet-es-Soltan on the Upper Oued Beth, where, however, butterflies were not very numerous about the middle of May. He then went south to Marrakesch, where *Euchloë charlonia*, a rare species generally in Morocco, were flying, and where *Polyommatus phoebus* was quite common in one place. He then returned northwards to El Hadjeb on the west slopes of the Middle Atlas, and on 2 June once more to Marrakesch. From there a trip was made to the Great Atlas and a stay in the Valley of the R'dat and collections were made at elevations of about 1,700 m., Dr. Hartert ascending as far as the Tizi N'Tiehka Pass, 2,450 m. high, not far from Telouet, where the pacha of the Glaoui has a large castle. Moths could be collected with the aid of an acetylene lamp, at El Hadjeb only, where a new form of *Phragmatobia fuliginosa* was discovered. A short stay was also made at Asni in the Great Atlas, where several French entomologists had already collected before.

1. *Papilio machaon maxima* Verity.

Papilio machaon maxima Verity, *Rhopalocera Palaearctica*, p. 296, pl. lii, f. 2 (1911) (gen. vern.) (Tangier).

Papilio machaon maxima gen. aest. *angulata* Verity, *Rhopalocera Palaearctica*, p. 296, pl. lx, f. 14 (1911) (Tangier).

1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927.

Both these ♀♀ are very worn and broken, but clearly exhibit the characters of the subspecies, especially the heavy dark markings. They are of the Spring generation.

2. *Papilio podalirius lotteri* Aust.

Papilio podalirius ab. lotteri Austaut, *Petites Nouvelles Entomologiques*, vol. ii, p. 293 (p. 304 nom. corr. *lotteri*) (15 Jan. 1879) (Sidi-Bel-Abbès) (gen. aest.).

Papilio feisthameli form. *maura* Verity (gen. vern. ex Africa), *Rhopalocera Palaearctica*, p. 293, pl. i. ff. 7, 8 (Jan. 1911) (Lambèze).

1 ♂, 1 ♀ Marrakesch, 4 and 6 June 1927; 1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927.

Although these 3 examples are from very late dates, they are undoubtedly of the Spring generation, *maura*, and not of the Summer one, *lotteri*.

3. *Aporia crataegi mauretanica* Oberth.

Aporia crataegi mauretanica Oberthür, *Étud. Lépid. Comp.* fasc. iii, p. 120 (1909) (Algeria).

1 ♂ Above Ouldjet-es-Soltan, Upper Oued Beth, 17 May 1927.

4. *Ganoris brassicae brassicae* (Linn.).

Papilio brassicae Linnaeus, *Syst. Nat.* i, p. 467, No. 58 (1758) (Sweden).

1 ♂, 2 ♀♀ Marrakesch, 3-5 June 1927.

In Mr. Meade-Waldo's article on his collections in Morocco (*Trans. Entom. Soc. Lond.* 1905, p. 371) the late H. J. Elwes says that some of Mr. Meade-Waldo's specimens resembled *G. brassicae wollastoni* (Butl.) from Madeira; this very loose statement could not have been made, if Mr. Elwes had not persistently ignored modern methods of treatment of local races. The two Atlantic races, *cheiranthi* from the Canary Islands and *wollastoni* from Madeira, have the 2 black spots of the forewing in the ♀ joined into a single large patch; whereas the N.W. African examples, as well as individuals of all other *brassicae* forms in which the 2 spots are joined, are casual sporadic aberrations, occurring very rarely among typical examples with the spots separate.

5. *Ganoris rapae mauretanica* (Verity).

Pieris rapae mauretanica Verity, *Rhopalocera Palearctica*, p. 155, pl. xxxiii, ff. 43, 44 (gen. aest.); pl. xxxiv, ff. 15, 16 (gen. vern. *leucoteroides* Rothsch.) (1908) (Algeria, Morocco, Tunisia) (ff. and text Algeria) (xxxiv, 15, 16 as *leucotera* Stef.).

Pieris rapae mauretanica gen. vern. *leucoteroides* Rothsch. *Bull. Soc. Scien. Nat. du Maroc*, vol. v, nos. 7 and 8, p. 129 (July 1925) (Rabat, Morocco).

2 ♂♂, 2 ♀♀ Asni, Great Atlas S. of Marrakesch, 15-17 June 1927; 1 ♂ Tizi N'Tiehka, Great Atlas, 13 kilometres W. of Telouet, 2,450 m. = 7,961 ft., 11 June 1927; 5 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft. N.E. of Telouet, 7-11 June 1927; 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927; 23 ♂♂, 19 ♀♀ Marrakesch, 4 May-5 June 1927.

These are all gen. aest. *mauretanica*, but vary much as regards size and size of spots, some having the spots and the black of the apex almost absent. (Largest ♂ 58 mm., smallest 36 mm. in expanse; large ♀ 58 mm., smallest 35 mm. in expanse.)

These "whites" were very common in gardens and plantations just outside Marrakesch.—E. H.

6. *Leucochloë daplidice albidice* (Oberth.).

Pieris daplidice var. *albidice* Oberthür, *Étud. d'Entom.* fasc. vi, p. 47 (1881) (Algérie, Prov. Constantine Sud).

3 ♂♂, 1 ♀ Valley of R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, Morocco, 7-11 June 1927; 2 ♂♂ 4 ♀♀ Marrakesch, 4-13 June 1927.

All these are as heavily marked on the hind wings below as any European *daplidice daplidice*, but the green is strongly suffused with yellow, showing that they must be treated as belonging to Oberthür's *albidice*.

7. *Euchloë charlonia* (Donzel).

Anthocharis charlonia Donzel, *Ann. Soc. Entom. France*, vol. xi, p. 197, pl. viii, f. 1 (1842) (Emsilah, Algeria).

8 ♂♂, 2 ♀♀ Marrakesch, 7-9 May-5 June 1927.

It is very interesting to find this beautiful little butterfly ranging so far to the west. Riggensbach sent me specimens from near Mogador.

I saw several flying between Fez and Taza on 27 April.—E. H.

8. *Euchloë ausonia crameri* Butl.

Euchloë crameri Butler, *Entom. Month. Mag.* vol. v. p. 271, no. 2 (1869) (South Europe !!) (gen. vern.).

Euchloë ausonia crameri gen. aest. *butleri* Rothschild, *Nor. Zool.* vol. xxiv, p. 82 (1917) (Spain and N. Africa) (gen. aest.).

3 ♂♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927; 3 ♂♂ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927; 1 ♂ Fez, 28 April 1927; 4 ♂♂, 4 ♀♀ Marrakesch, 7–9 May–13 June 1927.

All these 17 specimens belong to the gen. aest. *butleri*, but 1 from Marrakesch and 1 from El Hadjeb are somewhat intermediate between the Spring and Summer broods. 1 ♂ El Hadjeb has the black markings on the forewings above replaced by sooty grey, and 1 ♀ from Marrakesch has the black cellular stigma on the forewings above of gigantic size.

9. *Euchloë belemia* (Esp.).

Papilio belemia Esper, *Die Schmett.* vol. i, pt. 2, t. 110, f. 2 (1792) (?) (gen. vern.).

Papilio glauce Hübner, *Europ. Schmett.* i, ff. 546, 547 (1798–1803) (?).

2 ♂♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927; 1 ♂ Fez, 28 April 1927; 3 ♂♂, 6 ♀♀ Marrakesch, 7–9 May–6 June 1927.

All these 13 specimens belong to the gen. aest. *glauce*, though some of them appear somewhat intermediate between the Spring and Summer broods.

10. *Colias electo croceus* (Geoff.).

Papilio croceus Geoffroy, in Fourcroy's *Entom. Par.* vol. ii, p. 250 (1785) (Paris).

1 ♂ Tizi N'Tichka, Great Atlas, 12 kilometres W. of Telouet, 2,450 m. = 7,879 ft., 11 June 1927; 1 ♂, 1 ♀ Asni, Great Atlas S. of Marrakesch, 15–17 June 1927; 2 ♀♀ (1 ab. *helice*) Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♀ (ab. *helice*) Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927; 3 ♂♂ Marrakesch, 6 June 1927; 1 ♂, 1 ♀ Rabat, 20 May 1927.

This series of 6 ♂♂ and 6 ♀♀ is extraordinarily variable both as regards colour and size. 1 ♂, 1 ♀ are almost as dark fiery orange as the oriental *Colias fieldii*. 2 ♂♂, 2 ♀♀ are of the normal yellowish orange colour, while the 3 ♂♂, 1 ♀ dwarf examples are much paler, more golden yellow; the 1 ♀ ab. *helice* has a pure white ground-colour, while the other has a darker cream buff ground-colour (but not so dark as ab. *helicina* Oberth.).

The largest male expands 61 mm., the smallest 39 mm.; the largest ♀ expands 66 mm., the smallest 44 mm.

11. *Gonepteryx cleopatra cleopatra* (Linn.).

Papilio cleopatra Linnaeus *Syst. Nat.* edit. xii, pt. 2, p. 765, no. 105 (1767) (Barbaria).

4 ♂♂ Asni, Great Atlas, S. of Marrakesch, 15–17 June 1927; 3 ♂♂ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927; 3 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927.

12. *Pyrameis atalanta* (Linn.).

Papilio atalanta Linnaeus, *Syst. Nat.* edit. x, vol. i, pt. ii, p. 478, no. 119 (1758) (Sweden).

1 ♂, 1 ♀ Marrakesch, 6 and 13 June 1927.

This pair of specimens are small and somewhat dull coloured, as most of the N.W. African examples are.

P. atalanta is in Morocco only seen in gardens, at Rabat, Marrakesch, etc.—E. H.

13. *Pyrameis cardui cardui* (Linn.).

Papilio cardui Linnaeus, *Syst. Nat.* edit. x, pt. i, p. 475, no. 107 (1758) (Europe, Africa).

1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♂ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927.

The fresh colours of this pair show they had only just emerged.

14. *Argynnis lathonia* (Linn.).

Papilio lathonia Linnaeus *Syst. Nat.* edit. x, vol. i, p. 481, no. 141 (1758) (Europe).

7 ♂♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927.

15. *Melitaea desfontainii gibrati* Oberth.

Melitaea desfontainii var. *gibrati* Oberthür, *Étud. Entom. Comp.* fasc. xix, pp. 46 and 47, pl. dxxxii, ff. 418–422 (1922) (Massif de Zehroun).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927.

This solitary ♀ in poor condition shows that at El Hadjeb, at least, the season for this *Melitaea* had come to an end.

16. *Melitaea phoebe punica* Oberth.

Melitaea phoebe var. *punica* Oberthür, *Étud. Entom.* fasc. i, p. 25, pl. i, f. 3 (1876) (Lambèze).

2 ♂♂ Asni, Great Atlas S. of Marrakesch, 15–17 June 1927; 4 ♂♂, 2 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927.

The two Asni ♂♂ are considerably smaller and paler than the ♂♂ from the R'dat Valley.

17. *Melitaea didyma deserticola* Oberth.

Melitaea didyma ab. *deserticola* Oberthür, *Étud. Entom.* fasc. i, p. 25, pl. iii, f. 1 (1876) (Biskra).

2 ♂♂ Asni, Great Atlas S. of Marrakesch, 15–17 June 1927; 2 ♂♂, 1 ♀ Areg, Oued R'dat, Great Atlas, 1,470 m. = 4,778 ft., 12 June 1927; 2 ♂♂, 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♂ Marrakesch, 7–9 June 1927.

These 9 examples are somewhat darker than most of the large series in the Tring Museum from the Biskra district and farther south, but I cannot separate them as one or two of the Algerian specimens agree perfectly.

18. *Satyrus (Eumenis) semele algerica* Oberth.

Satyrus semele var. *algerica* Oberthür, *Étud. Entom.* fasc. i, p. 27 (1876) (Daya, etc.).

2 ♂♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927.

Two very highly coloured examples, but they can be matched with Algerian specimens.

19. *Satyrus (Eumenis) atlantis* Aust.

Satyrus atlantis Austaut, *Int. Entom. Zeitschr. Guben.* vol. xix, p. 29 (1905) (Tsaunitz Entsaganz, Meade-Waldo).

1 ♂ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927.

Two very fine examples of this exceedingly rare insect. The Tring Museum had only 2 ♂♂ taken by Vaucher at the Glaoui's at Telouet and 1 ♂, 1 ♀ from Meade-Waldo's original Tsaouritz Entsaganz series. Dr. Hartert's ♀ is much larger than Mr. Meade-Waldo's and much less like the ♂♂; it is much paler and more resembles the ♀ of *pelopea*. The only other examples of this interesting insect which have been recorded are 4 taken in 1920 and 1 in 1921 in the Middle Atlas by Harold Powell, and 1 ♂ by M. Alluaud on the Haute Reraza in June 1921. These 6 examples and 2 ♂♂, 1 ♀ collected by Vaucher at Glaoui Telouet are in the British Museum ex Oberthür Collection.

These two were the only specimens seen; they would be more numerous later in the year.—E. H.

20. *Melanargia galathea meade-waldoi* Rothschild.

Melanargia galathea meade-waldoi Rothschild, *Nov. Zool.* vol. xxiv, p. 110, no. 54a (1917) (Tamarough, Morocco).

1 ♂, 2 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15–17 June 1927; 11 ♂♂, 2 ♀♀ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 12 ♂♂, 7 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927.

The examples from the Middle Atlas are decidedly bigger than those from the Great Atlas, ♂ expanse 72 mm. as against 58 mm. and ♀ 82 mm. as against 68 mm. The whole series of 35 examples shows the character of the subspecies quite clearly. 1 ♀ El Hadjeb has the black of the left hind wing replaced by grey.

[*Melanargia ines ines* (Hoffm.)

In my article (*Bull. Soc. Scien. Nat. Maroc*, vol. v, nos. 7–8, Dec. 1925) on the collection of Dr. Hartert made 1925 in Morocco, I stated that there were 3 forms of *M. ines* in Morocco and I put the specimen from the Tarseft Pass down as *i. jahandiezi*, but on receipt of the present series, the Tarseft example appears somewhat intermediate between that form and *i. ines*.]

21. *Melanargia ines jahandiezi* Oberth.

Melanargia ines var. *jahandiezi* Oberthür, *Étud. Lépid. Comp.* fasc. xix, 1^{re} partie, pp. 80, 81, pl. dxxv, f. 4594.

23 ♂♂, 9 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927.

This series is apparently *jahandiezi*, though not quite so dark as the type and not nearly as dark as the Cyrenaican *ines sublutescens* Turati.

22. *Pararge aegeria meone* (Cram.).

Papilio meone Cramer, *Pap. Exot.* vol. iv, pt. xxvi, p. 51, pl. cccxiv, ff. E.F. (1780) (Alger).

1 ♂, 3 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♂ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927.

The ♂ from Ouldjet-es-Soltan is much darker than the one from the R'dat Valley.

23. *Pararge megera megera* (Linn.).

Papilio megera Linnaeus, *Syst. Nat.* edit. xii, pt. ii, p. 771, no. 142 (1767) (Austria, Dania).

1 ♂, 2 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 2 ♂♂, 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 1 ♂ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927; 1 ♂ Marrakesch, 7-9 May 1927; 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

24. *Epinephele lycaon mauretanica* (Oberth.).

Satyrus eudora var. *mauretanica* Oberthür, *Étud. Entom.* vi, p. 58 (1881) (Sebdou, Lambèze).

2 ♂♂ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 2 ♂♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

25. *Epinephele jurtina hispulla* (Hübner).

Papilio hispulla Hübner, *Samml. Eur. Schmett.* vol. i, Phal. i, Fam. 6, no. 25, p. 27, Taf. 116, ff. 593-596 (1805) (Portugal).

4 ♂♂, 3 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 1 ♂ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 2 ♂♂ Marrakesch, 7-9 May 1927; 3 ♂♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

26. *Epinephele pasiphae pasiphae* (Esp.).

Papilio pasiphae Esper, *Schmett.* vol. i, pt. ii, Forts. p. 99, no. 135, pl. lxxvii (cont. xviii), f. 4 (1777) (Envs. de Paris).

24 ♂♂, 6 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 2 ♂♂, 1 ♀ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927; 3 ♀♀ El Hadjeb, W. Slopes Middle Atlas, 23-29 May 1927.

All these 36 examples have the transverse band on the hind wings below yellowish cream colour and are thus quite typical.

27. *Epinephele ida ida* (Esper.).

Papilio ida Esper, *Schmett.* vol. i, pt. ii, Forts. p. 184, no. 176, pl. cxxii (cont. xli) (1777) (Pyrénées).

17 ♂♂, 2 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 15 ♂♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 2 ♂♂ Rabat, 11-20 May 1927.

28. *Coenonympha pamphilus lyllus* (Esp.).

Papilio lyllus Esper, *Schmett.* vol. i, pt. ii, Forts. pl. cxxii (cont. 77), ff. 1, 2 (1777) (?)

1 ♂ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 2 ♀♀ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927.

1 ♂, 1 ♀ are typical *lyllus* with the hind wings below heavily washed with yellow, but the 2nd ♀ has the underside almost as grey as in typical *pamphilus*.

29. *Chrysophanus phlaeas* (Linn.).

Papilio phlaeas Linnaeus, *Faun. Suec. edit. alt.* p. 285 (1761) (Sweden).

3 ♂♂, 2 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15–17 June 1927; 1 ♂, 1 ♀ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 8 ♂♂, 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 1 ♂, 1 ♀ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927; 15 ♂♂, 7 ♀♀ Marrakesch, 7–9 May 1927; 1 ♂, 3 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23–29 May 1927; 1 ♀ Rabat, 20 May 1927.

The larger number (33) of this series of 45 examples belong to the blackish form usually associated with the Summer brood, some being very extreme, and 2 absolute dwarfs (largest dark ♂ expands 39 mm., and the smallest 26 mm.). Among the remaining 12 more brilliantly coloured specimens is one ♀ ab. *coeruleopunctata*.

30. *Chrysophanus phoebus* Blach.

Chrysophanus phoebus Blachier, *Bull. Soc. Entom. France*, 1905, p. 212 (Moroccan Atlas, Ourika).

101 ♂♂, 17 ♀♀ Marrakesch, 7–9 May and 3–6 June 1927 (1 ♂ was destroyed); 1 ♀ Asni, Great Atlas, S.W. of Marrakesch, 15–17 June 1927.

This wonderful series shows some variation in the number and size of the black spots and also in the ground colour, some examples being of a more golden less fiery orange.

The specimen from Asni is the only one we saw in the Atlas, while they were common in one place near Marrakesch.—E. H.

31. *Lampides (Polyommatus) boeticus* (Linn.)

Papilio boeticus Linnaeus, *Syst. Nat.* edit. xii, vol. i, pt. 2, p. 789, no. 226 (1767) (Barbaria = Algeria).

1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 3 ♂♂, 1 ♀ Marrakesch, 3–13 June 1927.

32. *Tarucus theophrastus* (Fabr.).

Hesperia theophrastus Fabricius, *Entom. Syst.* vol. iii, pt. 1, p. 281, no. 82 (1783) (Morocco).

3 ♂♂ Asni, Great Atlas, S. of Marrakesch, 15–17 June 1927; 8 ♂♂, 38 ♀♀ Marrakesch, 7–9 May–3–6 June 1927.

As far as it is possible to tell without dissection of the genitalia, the whole of these 49 specimens are *T. theophrastus* and the Tring Museum only possesses *T. mediterraneae* from Western Morocco (Zoudj-el-Beghal) where the country is more desert. It may, however, yet be proved when we get larger series from all over Morocco that *mediterraneae* turns up in more districts than the extreme west.

33. *Lycaena icarus celina* Aust.

Lycaena celina Austaut, *Pet. Nouv. Entom.* vol. ii, p. 293, no. 212 (1879) (Sidi-Bel-Abbès).

10 ♂♂, 1 ♀ Asni, Great Atlas, S. of Marrakesch, 15–17 June 1927; 1 ♂, 1 ♀ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 3 ♀♀ Valley of the R'dat 1,700 m. = 5,525 ft., N.E. of Telouet, 7–11 June 1927; 4 ♂♂ Ouldjet-es-Soltan, Upper Oued Beth, 15–16 May 1927; 5 ♂♂, 2 ♀♀ Marrakesch, 7–9 May–4–13 June 1927.

34. *Lycaena astrarche calida* (Bell.).

Lycaena agestis var. *calida* Bellier de la Chavignerie, *Ann. Soc. Entom. France*, vol. 2, ser. iv, p. 615, no. 2 (1862) (no locality).

3 ♂♂, 1 ♀ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 5 ♂♂, 3 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 6 ♂♂, 5 ♀♀ Marrakesch, 7-20 May-3 June 1927.

Of this series of 14 ♂♂, 9 ♀♀, 4 ♀♀ only are pronounced *calida*, the ♂♂ and 4 ♀♀ being *ornata* and 1 ♀ intermediate.

35. *Lycaena bellargus punctifera* Oberth.

Lycaena bellargus punctifera Oberthür, *Étud. Lépid. Comp.* fasc. iv, pt. i, pp. 268, 269 (1910) (Algeria).

2 ♂♂ Tizi N'Tiehka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927.

These two examples are in poor condition and show practically no spotting.

36. *Lycaena abencerragus* (Pierr.).

Argus abencerragus Pierret, *Ann. Soc. Entom. France*, vol. vi, p. 21, pl. i. f. 7 (1837) (Oran).

2 ♂♂, 14 ♀♀ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 3 ♂♂, 9 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 4 ♀♀ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927; 1 ♀ Marrakesch, 3 June 1927; 1 ♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

The genitalia prove this to be a perfectly distinct species and not a race of *baton*.

37. *Lycaena lysimon* (Hübner).

Papilio lysimon Hübner, *Samml. Eur. Schmett.* vol. i, ff. 534, 535 (1799) (?).

5 ♂♂, 4 ♀♀ Marrakesch, 7-9 May-3, 4 June 1927.

In Algeria this species is pronouncedly an inhabitant of the Saharan Oases, but apparently in Morocco it is not so strictly a desert species.

38. *Lycaena melanops alluandi* Oberth.

Lycaena melanops var. *alluandi* Oberthür, *Étud. Lépid. Comp.* fasc. xix, p. 113 (1922) (Haut Reraya).

31 ♂♂, 16 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927.

This form appears to be confined to the Great Atlas, but Mr. Meade-Waldo does not record it. Riggenbach, however, got 3 examples at Fenson, Truchat, and Tamarouth; and Vaucher obtained 1 at Ourika.

39. *Adopaea thaumas* (Hufn.).

Papilio thaumas Hufnagel, *Berl. Mag.* vol. ii, p. 62 (1766) (Berlin).

2 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

In 1927 no examples of *lineola* were obtained, but Dr. Hartert was not in the locality late enough for it as it appears only in the latter half of June. In 1925 I recorded Dr. Hartert as having captured 20 *thaumas* and 5 *lineola*: how I came to make this extraordinary error I do not know; all 25 specimens are *lineola* !!!

40. *Adopaea acteon* (Rott.).

Papilio acteon Rottenburg, *Naturf.* vol. vi, p. 30, no. 18 (1775) (Landsberg an der Warthe).

3 ♂♂, 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 4 ♂♂ Asni, Great Atlas, S. of Marrakesch, 15-17 June 1927; 1 ♂ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927; 1 ♂ Marrakesch, 6 June 1927; 1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

41. *Adopaea hamza* (Oberth.).

Hesperia hamza Oberthür, *Étud. Entom.* fasc. i, p. 28, pl. iii, ff. 2 a, b (1876) (Oran).

5 ♂♂, 6 ♀♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927.

This species is very close to *acteon* but is at once distinguished by the absence of the feathered yellowish streaks in both sexes and the reddish discs of the forewings in the ♀♀.

42. *Carcharodus alceae* (Esp.).

Papilio alceae Esper, *Schmett.* pt. i, Forts. p. 4, pl. li, f. 3 (1780) (Germany?).

1 ♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 11 ♂♂ Marrakesch, 7-9 May-3-6 June 1927.

43. *Hesperia ali* (Oberth.).

Syrichthius ali Oberthür, *Étud. Entom.* fasc. vi, p. 61, pl. ii, f. 3 (1881) (Algeria).

5 ♂♂, 1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927.

44. *Hesperia onopordi* Ramb.

Hesperia onopordi Rambur, *Faune de l'And.* p. 319, no. 4, pl. 8, f. 13 (1842) (Granada).

7 ♂♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927.

45. *Procris orana* (Aust.).

Ino orana Anstant, *Le Nat.* vol. ii, p. 284 (1880) (Oran).

4 ♂♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

In my article on Dr. Hartert's 1924 collection (*Bull. Soc. Scien. Nat. Maroc*, vol. v, nos. 4 and 5, July 1925) I enumerated the 41 examples of *Procris* under the 2 headings of *Procris geryon* and *P. orana* owing to several showing antennae almost inseparable from European *P. geryon*. The 5 examples taken in 1927 are all typical *orana*; but the re-examination of the antennae of the 1924 series shows some with antennae a good deal intermediate. It is, therefore, quite possible that, when a large series from all over Morocco is available, we shall have to relegate *P. orana* to the rank of the N. African subspecies of *geryon*.

46. *Zygaena favonia borreyi* Oberth.

Zygaena favonia var. *borreyi* Oberthür, *Étud. Lépid. Comp.* fasc. xix, pt. i, p. 157 (1922) (Chabat-el-Hamma).

31 ♂♂, 2 ♀♀ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927; 36 ♂♂, 4 ♀♀ above Ouldjet-es-Soltan, 17 May 1927; 14 ♂♂, 4 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927; 5 ♂♂ East Plateau of Tafoudait, 18 May 1927; 8 ♂♂, 4 ♀♀ Rabat, 11 May 1927.

47. *Zygaena loyselii ungemachi* Le Cerf.

Zygaena ungemachi Le Cerf, *Bull. Soc. Entom. France*, 1923, p. 200 (Oulmès, Léas, Hammam).

2 ♀♀ Rabat, 20 May 1927.

These two females are very worn as they were taken some 6 weeks later than the 49 examples captured in 1924. They are, however, most interesting as they have both complete pink abdominal rings; thus showing, once again, that species or subspecies whose normal coloration includes a uniform dark abdomen occasionally appear with an abdominal ring.

48. *Zygaena orana harterti* Rothschild.

Zygaena harterti Rothschild, *Bull. Soc. Scien. Nat. Maroc*, vol. v, nos. 7-8 (Dec. 1925) (Azrou, Middle Atlas).

1 ♀ Tizi N'Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 kilometres W. of Telouet, 11 June 1927; 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

These 2 ♀♀ are evidently the same form, but the Tizi N'Tichka one is very large, and has much less white surrounding the pink spots of the forewing.

49. *Dysauxes punctata separata* Bang-Haas.

Dysauxes punctata var. *separata* Bang-Haas, *Iris*, vol. xix, p. 143, pl. v, f. 15 (1906) (South Oran, Algeria).

1 ♂ Ouldjet-es-Soltan, Upper Oued Beth, 15-16 May 1927.

This example is somewhat intermediate between true *separata* and Spanish *servula* as the orange patch on the inner area of the hind wings is decidedly larger than in Algerian *separata*.

50. *Euprepia cribraria chrysocephala* (Hübner.)

Bombyx chrysocephala Hübner, *Europ. Schmett.*, vol. ii, Bomb. ii, f. 251 (1876) (Spain?).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

51. *Phragmatobia fuliginosa harterti* subsp. nov.

Differs from *P. f. kroumira* Oberth. in its larger size; deeper coloration, the forewings brighter more golden cinnamon brown and the hind wings deeper salmon crimson; the black spots on the hind wings are also larger. Expanse *f. harterti* 38-47 mm.; *f. kroumira* 30-40 mm.

16 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

All these specimens came to the lamp in the early evening.—E. H.

52. *Utetheisa pulchella* (Linn.).

Phalaena pulchella Linnaeus, *Syst. Nat.* edit. x, vol. i, p. 534, no. 238 (1758) (South Europe, Mauretania).

2 ♂♂, 3 ♀♀ Marrakesch, 7-9 May-4 June 1927.

53. *Malacosoma alpicola mixta* Rothschild.

Malacosoma alpicola mixta Rothschild, *Bull. Soc. Scien. Nat. Maroc*, vol. v, nos. 7 and 8, p. 340, no. 84 (Dec. 1925) (Azrou).

1 ♀ (in poor condition) El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

It is a great pity only 4 ♀♀ and no ♂♂ of this race are known.

54. *Sterrhopterix* ? *powellii* Oberth.

Sterrhopterix powellii Oberthür, *Étud. Lépid. Comp.* fasc. xix, pt. 1, p. 141, pl. dxxxvi, ff. 4468-4469 (1922) (Urassine).

35 ♂♂ El Hadjeb, W. Slopes Middle Atlas, 23-29 May 1927.

This interesting *Psychid* is apparently near the *helix* group.

55. *Pyropteron doryliformis tingitana* Le Cerf.

Pyropteron doryliformis tingitana Le Cerf in Oberthür's *Étud. Entom. Comp.* fasc. xi, Expl. pl., p. 13, pl. ccxix, ff. 4644 and 4645 (1916) (Tangier).

1 ♀ Rabat, 20 May 1927.

56. *Argyrospila musculosa* (Hübner).

Noctua musculosa Hübner, *Samml. Europ. Schmett. Noct.* f. 363 (1808) (?).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

57. *Cirphis l. album* (Linn.).

Phalaena l. album Linnaeus, *Syst. Nat.* edit. xii, p. 850 (1767) (Europe).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

This example has very dark forewings.

58. *Athetis clavipalpis* (Scop.).

Phalaena clavipalpis Scopoli *Entom. Carn.* p. 213 (1763) (Carniolia).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

There is a strong ashy-grey wash over the forewings of this example.

59. *Cucullia scrophulariphila* Stdgr.

Cucullia scrophulariphila Staudinger, *Steth. Entom. Zeit.* vol. xx, p. 215, no. 10 (1859) (Chiclana).

1 ♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

60. *Metopoceras felicina* (Donz.).

Polia felicina Donzel, *Ann. Soc. Entom. France*, sér. ii, vol. ii, p. 199, pl. 6, f. 2 (1844) (Marseille).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

61. *Cleophana baetica baetica* Ramb.

Cleophana baetica Rambur, *Faun. Entom. de l'Andal.* pl. 18, f. 4 (1842) (Andalusia).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

On his way to Morocco, Dr. Hartert captured at Bou Saada, Algeria (6 April 1927), a ♂ of *C. b. diluta* Rothsch. which is almost as dark as this Moroccan example.

62. *Amephana aurita* (Fabr.)

Noctua aurita Fabricius, *Mant. Ins.* vol. ii, p. 179, no. 282 (1787) (Spain).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

63. *Synthymia fixa australis* (Oberth.).

Metoptria monogramma australis Oberthür, *Étud. Lépid. Comp.* fasc. xvi, p. 199, pl. xdvii, f. 4137 (1919) (Géryville).

11 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

64. **Phyllophyla numerica disjecta** Warr.

Phyllophyla numerica ab. *disjecta* Warren in Seitz, *Grossschmett. Erde*, vol. iii, p. 274 (1912) (Spain).

1 ♀ Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927.

65. **Tarache lucida** (Hufn.).

Noctua lucida Hufnagel, *Berl. Mag.* vol. iii, p. 302 (1766) (Berlin).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

This example is a typical *lucida*.

66. **Eublemma albida** (Dup.).

Anthrophila albida Dupouchel, *Lépid. France*, suppl. iv, p. 382, pl. 81, f. 1 (1842) (Marseille).

1 ♂ Marrakesch, 7-9 May 1927.

This example is very large (expanse 36 mm.).

67. **Apopestes spectrum maura** Warr.

Apopestes spectrum maura Warren in Seitz, *Grossschmett Erde*, p. 370, pl. 68b (1913) (Algeria).

5 ♂♂ (crippled) emerged Tring from larvae collected in Valley of the R'dat, 1,700 m. = 5,525 ft., N.E. of Telouet, 7-11 June 1927; 3 larvae in alcohol Taddert Mid-June 1927.

68. **Syneda cailino philippina** (Aust.).

Leucanitis philippina Astant, *Le Nat.* vol. ii, p. 237 (1880) (Oran).

1 ♂ Above Ouldjet-es-Soltan, Upper Oued Beth, 17 May 1927.

69. **Hypena obsitalis** (Hüb.).

Pyralis obsitalis Hübner, *Samml. Europ. Schmett. Pyr.* ff. 164, 165, 179 (1827) (Europe).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

70. **Scopula imitaria** (Hüb.).

Geometra imitaria Hübner, *Samml. Europ. Schmett. Geom.* pl. 10, f. 51 (1798) (Europe).

1 ♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

71. **Scopula marginepunctata** (Goeze).

Phalaena Geometra marginepunctata Goeze, *Entom. Beytr.* vol. iii, pt. iii, p. 385, no. 85 (1781) (?).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

72. **Sterrha litigiosaria** (Bdv.).

Acidalia litigiosaria Boisduval, *Gen. et Ind. Meth. Europ. Lépid.* p. 226 (1840) (S. France).

2 ♂♂, 3 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

73. **Sterrha humiliata** (Hufn.).

Geometra humiliata Hufnagel, *Berl. Mag.* vol. iv, p. 614 (1769) (Berlin).

6 ♂♂, 12 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

74. *Sterrha dimidiata* (Hufn.).

Geometra dimidiata Hufnagel, *Berl. Mag.* vol. iv, p. 602 (1769) (Berlin).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

75. *Sterrha cervantaria depressaria* (Stdgr.).

Acidalia cervantaria var. *depressaria* Staudinger, *Iris*, vol. v, p. 289 (1892) (Tunis, Lambèze, Granada).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

76. *Sterrha incarnaria* (Herr.-Sch.) ab. *ruficostata* (Zell.).

Acidalia incarnaria ab. *ruficostata* Zeller, *Stett. Entom. Zeit.* 1849, p. 215 (?).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

77. *Orthonama obstipata* (Fabr.).

Phalaena obstipata Fabricius, *Entom. Syst.* vol. iii, pt. ii, p. 109, no. 257 (1791) (In Barbaria).

1 ♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

78. *Eupithecia pantellaria illuminata* Joan.

Eupithecia illuminata L. de Joannis, *Bull. Soc. Entom. France*, p. lxxx (NOT elxxx as in Staud. Cat. 1901), no. 4 (1891) (Philippeville).

2 ♂♂, 3 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

Mr. Prout thinks it possible that this series is referable to the form *lusitanica* Dieze, but as the specimens, with the exception of 1 ♂, are rather worn, it is best to leave this undecided at present, especially as *lusitanica* is from N. of the Mediterranean.

79. *Eupithecia centaureata* (Schiff. and Den.).

Phalaena Geometra centaureata Schiffermüller and Denis, *Ank. Syst. Werk. Schmelt. Wienergeg.* p. 114, no. 7 (1775) (Vienna).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

80. *Eupithecia orana* Dietze.

Eupithecia unitaria ab. *orana* (? spec. nov.) Dietze, *Biol. Eup.* vol. ii, text, p. 101, vol. i, pls. 76, f. 589 (1913) (Oran).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

81. *Gymnoscelis pumilata* (Hübner).

Geometra pumilata Hübner, *Samml. Europ. Schmelt. Geom.* pl. 75, no. 388 (1793-1827) (Europe).

82. *Amygdaloptera testaria* (Fbr.).

Phalaena testaria Fabricius, *Entom. Syst.* vol. iii, pt. 2, p. 143, no. 53 (1794) (In Barbaria).

5 ♂♂, 5 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

83. *Anaitis efformata* Guen.

Anaitis efformata Guenée in Boisduval and Guenée, *Hist. Nat. Ins. Spec. Gén. Lépid.* vol. x (vol. ii *Uran. and Phal.*), p. 500, no. 1730 (1857 (iss. 1858)) (Syria).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

84. **Crambus craterellus chrysonuchelloides** Rothseh.

Crambus craterellus chrysonuchelloides Rothschild, *Bull. Soc. Scien. Nat. Maroc*, vol. v, nos. 4 and 5, p. 151, no. 104 (1925) (Azrou).

The ♂ differs from the ♀ in the more whitish or silvery ground-colour of the forewings and in having only two complete black segments of the abdomen and 2 black dots on the 2nd segment, whereas the ♀ has segments 2 to 7 entirely black above.

1 ♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

85. **Enrhodope cruentella** (Dup.).

Ithyia cruentella Duponchel in Godart's *Hist. Nat. Lépid. France*, suppl. iv, p. 365, no. dx, p. 79, f. 5 (1842-1844) (Andalusia).

5 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

86. **Pyralis farinalis** (Linn.).

Phalaena Pyralis farinalis Linnaeus, *Syst. Nat.*, edit. x, vol. i, p. 533, no. 226 (1758) (?).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

87. **Aglossa pinguinalis asiatica** Erseh.

Aglossa pinguinalis L. var. *asiatica* Erschoff, *Ilor. Soc. Entom. Ross.*, vol. viii, p. 317, no. 8 (1871) (nr. Samarkand).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

88. **Botys interjunctalis** (Guen.).

Cledeobia interjunctalis Guenée in Lucas, *Hist. Nat. Anim. Artic.* in *Expl. Scient. d'Alg.* vol. iii, p. 398, no. 150 (1849) (Lacalle).

25 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

89. **Myelois cribrella** (Hübner).

Tinea cribrella Hübner, *Samml. Europ. Schmett.*, ii Tineae, no. 67 (1793-1827) (Europe).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

90. **Nomophila noctuella** (Schiff. and Den.).

Tinea noctuella Schiffermüller and Denis, *Ank. Syst. Werk. Schmett. Wienergeg.* p. 136, no. 35 (1775) (Vienna).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

91. **Uresphita polygonalis** (Hübner).

Pyralis polygonalis Hübner, *Samml. Auschl. Vög. and Schmett.*, pl. 76 (1793) (Augsburg).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

92. **Stenia bruguieralis tenebrosa** subsp. nov.

Differs from *b. bruguieralis* in being much blacker; forewings strongly suffused with black, almost obliterating pattern; hind wings, basal half almost black, outer half entirely black.

1 ♂ Valley of the R'dat, 1,700 m. = 5,525 ft., N.W. of Telouet, 7-11 June 1927.

93. *Hapalia martialis* Guen.

Scopula martialis Guenée, *Hist. Nat. Ins. Spec. Gén. Lépid.* vol. viii, p. 398, no. 517 (1854) (Abyssinia ?), *Pyralis ferrugalis* Hübner, *Samml. Europ. Schmett.* vol. vi, Pyr. i, pl. 23, f. 150 and Pyr. iii, pl. 9, f. 54 (1793-1827) (Europe).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

The name *ferrugalis* Hbn., though it has the priority, is preoccupied.

94. *Pyrausta limbopunctalis* (Herr.-Sch.).

Hercyna limbopunctalis Herrich-Schäffer, *Syst. Bearb. Schmett. Europ.* suppl. vol. iv, p. 115, no. 102b. pl. Pyr. 17.

No. 117 (1849) (Spain).

3 ♂♂, 3 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

95. *Pyrausta cespitalis* (Schiff. and Den.)

Pyralis cespitalis Schiffermüller and Denis, *Ank. Syst. Werk. Schmett. Wienergeg.* p. 123, no. 32 (1775) (Vienna).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

96. *Pyrausta sanguinalis* (Linn.).

Phalaena Pyralis sanguinalis Linnaeus, *Sys. Nat.* edit. xii, vol. i, p. 882, no. 339 (1767) (Portugal).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

97. *Acompsia formosella* (Hübner).

Tinea formosella Hübner, *Samml. Europ. Schmett.* viii Tineae, v Ignob. B. no. 160 (1793-1827) (Europe).

1 ♂, 1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 23-29 May 1927.

98. *Orneodes grammodactyla* Zell.

Alucita grammodactyla Zeller, *Isis of Oken* 1841, pp. 887-9, no. 1 (Frankfort-on-the-Oder).

1 ♂ Rabat, 22 June 1927.

In addition there is 1 ♂ Tortricid from El Hadjeb too worn and rubbed for identification.



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